



ACTION MEMORANDUM

DATE:

SUBJECT: Request for Approval of a Removal Action at the Radiation Technology Incorporated Site, Rockaway Township, Morris County, New Jersey.

FROM: Dan Harkay, On- Scene Coordinator

TO: George Pavlou, Director
Emergency and Remedial Response Division

THRU: Joseph D. Rotola, Acting Chief
Removal Action Branch

Site ID: X5

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the proposed removal action, described herein, for the Radiation Technology Incorporated Site (Site), located in the Township of Rockaway, Morris County, New Jersey. The total funding requested in this action memorandum is \$27,400.00 of which \$22,227.00 is from the Regional Advice of Allowance for mitigation contracting.

This Site is on the National Priorities List (NPL). There are no nationally significant or precedent-setting issues associated with the removal action proposed.

II SITE CONDITIONS AND BACKGROUND

The Comprehensive Environmental Response, Compensation and Liability Information System ID Number for this time-critical Removal Action is NJD047684451.

A. Site Description

The entire Site consists of 263 acres of land which is comprised of three distinct areas: the active Radiation Technology Incorporated (RTI) complex, the former Rockaway Industrial Park (RIP) and undeveloped land. The focus of this action is at the former RIP complex which is an inactive, partially developed 65 acre parcel, situated east of Lake Denmark Road. (Attachment A). The RIP was used by the Reaction Motors, Inc./Thiokol Corporation to develop and test rocket engines and propellants from 1941 to 1972. The parcel contains several small buildings that had recently been used by small businesses including an auto mechanic and landscaping service. The buildings are currently unoccupied. The RIP parcel is secured with a perimeter

security fence. Approximately 600 linear feet of asbestos covered pipe is fastened to a portion of this fence. The protective membrane covering the asbestos insulation has deteriorated, exposing friable asbestos which is actively releasing fibers to the environment.

This action memorandum authorizes the removal of friable asbestos insulation from the piping that is attached to the perimeter fence of the facility. The action will eliminate the threat caused by the release of asbestos fibers to the environment.

1. Removal site evaluation

At the request of the Remedial Project Manager (RPM) the Environmental Response Team (ERT) was tasked to evaluate buildings and structures on the RIP parcel and identify and sample Presumed Asbestos Contaminated Material (PACM) from those locations. On March 15, 2005, personnel from the Response, Engineering and Analytical Contract (REAC) conducted a sampling event to characterize PACM levels within site buildings and facility structures. Fifty-three bulk asbestos samples were collected and analyzed by REAC's subcontractor J & S Environmental Laboratories, LLC via Polarized Light Microscopy (PLM). J&S Environmental (ELAP # 11832) is accredited by New York State Department of Health Environmental Laboratory Approval Program.

The site investigation and sampling event identified numerous locations on the RIP parcel where Asbestos Containing Material (ACM) is present.

On March 31, 2006, the RPM and On Scene Coordinator (OSC) visited the RIP parcel to assess the condition of the ACM identified during the March 15, 2005 assessment and sampling event. The RPM and OSC inspected the ACM in those areas where it was identified and determined that all the ACM was in fair to good condition, with the exception of the ACM insulation located on the pipes fastened to the perimeter fence. This ACM was severely deteriorated, and was actively releasing fibers as evidence of friable material on the ground below the pipe. Samples collected from the ACM pipe insulation identified chrysotile asbestos at 8 percent and 15 percent. The laboratory results are included in Attachment A.

2. Physical location

The Site is situated in the western portion of Morris County, New Jersey, at 108 Lake Denmark Road in Rockaway Township. Rockaway Township has a population of approximately 20,000 people. The next closest town to the Site is Denville, which has a population of approximately 14,000 people. The area around the Site is generally rural in nature. However there has been significant residential and industrial development in the region in recent years. To the west of the Site, significant heavy industrial activities have been ongoing at the Army and Navy portions of the Picatinny Military Arsenal facilities since at least the 1920s. Areas to the east of the RTI site consist mainly of single-family residences situated in the population centers mentioned previously.

3. Site characteristics

The RIP facility is secured within an eight feet high chain link fence which is located around the perimeter of the parcel. The fence along the east property perimeter has piping attached to it. This piping is believed to have carried water from the water tower to a pump house both of which are located on the facility. To prevent water in the pipe from freezing, the pipe was covered with thermal system insulation (TSI) which was enclosed within an ACM protective membrane. The total length of insulated pipe attached to the fence is approximately 600 feet.

Adjacent to the fence at this location is a trail. The trail is parallel to the fence and appears to be heavily used by hikers and off road vehicles. Individuals using the trail are within a few feet of the ACM pipe insulation and can easily be exposed to air born fibers that are being actively released.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

Asbestos is considered a hazardous substance as defined in CERCLA Part 101 (14) and is a listed hazardous substance in Table 302.4 of 40 CFR Part 302. Samples collected from the ACM identified chrysotile at 8 percent and 15 percent.

Asbestos exposure may cause two primary classes of health effects. The first is asbestosis, a non-malignant disease characterized by a progressive scarring of the lung and pleura. This condition progresses slowly over many decades, and may continue even after the asbestos exposure has ceased. As microscopic scarring builds up, the lungs become stiff and restricted with thickening in the walls of the breathing spaces. The stiffening of the lungs, when severe, can make it difficult to breathe. The other major class of asbestos-related health effects is mesothelioma and lung cancer after apparently minimal exposure to asbestos.

The environmental threats posed by the ACM include the release of asbestos fibers into the air and onto the ground surface.

The ACM on the ground can migrate to other onsite and offsite areas via wind currents and surface water drainage.

5. NPL status

The site was listed on the NPL in September 1984.

6. Maps, pictures and other graphic representations

See Attachment A

B. Other Actions to Date

1. Previous Actions

During the period of November 1980 to May 1981, the New Jersey Department of Environmental Protection (NJDEP) and the Rockaway Township Health Department conducted numerous inspections of the Site. The NJDEP investigations focused on chemical types and quantities, waste disposal practices and chemical waste manufacturing processes used at the Site.

In March 1981 the Rockaway Township Health Department notified the NJDEP that two principal water supply wells on the site were found to be contaminated with volatile organic compounds (VOC). Both wells were subsequently closed by the Health Department.

NJDEP's investigations resulted in the issuance of an Administrative Order and Notice of Prosecution to RTI. RTI was ordered to properly remove and cleanup spills, buried wastes and improperly stored waste materials. NJDEP issued a directive to RTI in November 1981 stating that their activities had contaminated the shallow ground water table with VOCs and mandated that RTI determine the degree and extent of contamination.

In December 1981, RTI disclaimed responsibility for the ground water contamination associated with the Site. In March 1982, NJDEP filed a complaint with the Superior Court of New Jersey, Chancery Division, Morris County as a result of RTI's failure to comply with various enforcement and administrative actions issued by the NJDEP. In settlement of the complaint RTI and NJDEP entered into a Consent Order in July 1983 under which RTI was required to install six, groundwater monitoring wells on the site

In September and October 1983, RTI installed six monitoring wells. In September 1983 the Site was proposed for inclusion on the National Priorities List (NPL). In August 1994, NJDEP issued a Site Evaluation Report with the objective of identifying sources of ground water contamination at and around the property. The well sampling and analysis indicated that elevated levels of VOCs were present in the ground water.

In March 1987 RTI entered into an Administrative Consent Order (ACO) with NJDEP to pay for the Phase I Remedial Investigation Feasibility Study (RI/FS) to be performed by a contractor to NJDEP. In August 1987, NJDEP's contractor initiated the RI/FS.

In addition to the RI/FS, other surveys and remedial work were performed by RTI. Radiological surveys were conducted within the Site under Nuclear Regulatory Commission (NRC) supervision. Remediation of all radiologically contaminated soil areas found during the surveys was completed by RTI under NRC direction in August 1990 and February 1991. The NRC also required RTI to monitor ground water through 1995 for radioactive contamination.

In July 1990, RTI removed a leaking underground storage tank containing solvents and in 1993, other tanks, drums, contaminated soil and sumps were remediated under NJDEP guidance and direction.

In December 1992, RTI and Thiokol Corporation entered into an ACO to reimburse NJDEP for the all RI/FS costs and to perform design and remedial activities for contaminated ground water.

2. Current actions

At the request of the NJDEP, the Environmental Protection Agency (EPA) took over as lead agency for remediation of the site in January 2001. A Consent Decree entered by the Court in May 2004 requires Alliant Techsystems Inc. (ATK) to implement the ground water remedy selected in the Record of Decision for the Site. ATK is the successor to the Thiokol Corporation. In October 2004, EPA executed an Administrative Order on Consent (AOC) with ATK to address the Operable Unit-2 RI/FS to investigate potential soil contamination as well as other potential source(s) of groundwater contamination at the Site. As discussed in Section 9, the AOC does not address environmental concerns associated with asbestos present in the facility buildings and on the Site.

C. State and Local Authorities' Role

1. State and local actions to date

NJDEP relinquished site responsibilities to USEPA in January 2001. Prior State and local involvement at the Site has been discussed in Section B. 1.

2. Potential for continued State/local response

At this time no further State or local involvement at the site is anticipated.

III THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to the Public Health or Welfare

Hazardous substances, pollutants or contaminants present at the Site represent a threat to the public health and welfare as defined by Section 300.145 (b)(2) of the National Contingency Plan (NCP), in that there is a high potential for releases to continue to occur due to exposure to the elements (sunlight, rain, and wind). Continued exposure to the elements will result in further deterioration of the TSI causing asbestos fibers to release into the environment. Factors that support the removal action at the Site include:

- (i) Actual or potential exposures to nearby human populations, animals, or the food chain from hazardous substances, pollutants, or contaminants;**

There is a potential exposure to nearby human populations, animals or the food chain from hazardous substances, or pollutants, or contaminants. The primary routes of exposure to asbestos at the Site are inhalation and ingestion. The ACM protective membrane covering the TSI insulated pipes fastened to the fence is in an extreme state of deterioration. The membrane

surrounding the TSI has deteriorated and friable asbestos is falling to the ground surface and releasing into the air. Parallel to the fence is an active trail used by local hikers and off road vehicles. Individuals using the trail are within a few feet of the TSI and will come in contact with asbestos fibers that are being released. Individuals coming in contact with asbestos fibers may transport the materials off-site on their clothing and/or shoes, potentially impacting others.

Asbestos is a general term used to describe minerals that tend to form fibers when they are broken. These minerals are formed under conditions of very high heat and pressure deep in within the earth, and they are resistant to the types of temperatures and pressures found in our environment at the surface. Because their chemical composition is unchangeable, an asbestos mineral will always break into fibers. Large fibers have the potential to break into smaller ones, which eventually results in its reduction to microscopic size. Because of their small size, shape and lightness, these fibers act more like a gas than a dust.

Crysotile is a mineral containing long, flexible fibers that, due to their electron structure, tend to stick to things. This places them in a very good position to become re-entrained. These fibers are usually two centimeters in width.

The most significant human exposure pathway for asbestos is the inhalation of respirable asbestos fibers. The ingestion of fibers may also be an exposure pathway of concern to those individuals who may come in contact with ACM.

Asbestos exposure may cause two primary classes of health effects. The first is asbestosis, a non-malignant disease characterized by a progressive scarring of the lung and pleura. This condition progresses slowly over many decades and may continue even after asbestos exposure has ceased. As microscopic scarring builds up, the lungs become stiff and restricted with thickening in the walls of the breathing spaces. The stiffening of the lungs, when severe, can make it difficult to breathe. The other major class of asbestos-related health effects is mesothelioma and lung cancer after apparently minimal exposure to asbestos.

All asbestos-related malignancies have a latency period. There is a considerable time interval between asbestos exposure and when lung cancer, mesothelioma, or other asbestos related cancers are seen. This latency period may vary from 20 to 40 years, although some cases may occur earlier.

(v) Weather conditions exist that may cause hazardous substances, or pollutants, or contaminants to migrate or be released.

The protective membrane covering the TSI has deteriorated to such an extent that it is nearly completely off the pipe. This has caused the TSI, to be in direct exposure to wind, snow, and rain which has resulted in an active release of fibers into the environment. TSI is present on the ground surface below the pipes due to the adverse impacts of the weather. The dry friable nature of the TSI is easily carried by the wind which could impact persons in the vicinity of the site.

- (vii) **There is no other appropriate federal or State response mechanisms available to respond to the situation at the Site.**

No other federal or State response mechanism is available to respond to the threats present by the ACM.

B. Threats to the Environment

ACM will continue to release fibers into the environment from exposure to snow, wind and rain. The asbestos fibers can migrate to other areas onsite and offsite via wind currents and surface water drainage.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action described in this action memorandum, presents an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

To mitigate the threat posed by the ACM, the following scope of work will be implemented:

All ACM covering the pipe, secured to the perimeter fence will be removed. ACM that has fallen to the ground will also be picked up and removed. All ACM will be wetted and double bagged pursuant to asbestos abatement protocols. The work will be performed by New Jersey Department of Labor licensed personnel in accordance with OSHA requirements. The bagged ACM will be disposed of offsite in accordance with EPA's offsite rule.

2. Contribution to remedial performance

The response measures proposed in this Action Memorandum will address the threats posed to the public health and environment through removal of the ACM

3. Description of alternative technologies

The selected removal action of removing the ACM from the pipe has been determined to be the appropriate disposal method for the situation based on the criteria of effectiveness, implement ability and cost.

4. Environmental Evaluation/Cost Analysis (EE/CA)

Due to the time-critical nature of this removal action, an EE/CA will not be prepared.

5. Applicable or relevant and Appropriate requirements (ARARS)

Federal ARARS determined to be applicable for the proposed scope of this removal action, include the Resource Conservation Recovery Act (RCRA), OSHA, and the Hazardous Materials Transportation Uniform Safety Act.

6. Project schedule

This project will be completed in three days. Day one will involve mobilization to the site and removal of all ACM from the pipes fastened to the fence and any material that has fallen onto the ground. Day two will be dedicated to preparing the ACM waste for disposal, spraying an encapsulant onto the abated pipe, and loading the waste into a roll off container for offsite disposal. Day three will focus on demobilization of personnel and equipment.

B. Estimated Costs

A summary of the funding requested in this memorandum is presented below:

Extramural Costs

Regional Removal Allowance Cost:

Total Cleanup Contractor Cost (including 15% contingency)	\$22,227.00
RST, Extramural Costs	\$ 1,600.00
Subtotal, Extramural Costs	\$23,827.00
Extramural Cost Contingency (15%)	\$ 3,574.00
TOTAL REMOVAL ACTION PROJECT CEILING	\$27,400.00

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action to address the ACM will result in an increased potential for exposure to asbestos fibers that become air born due to the extremely friable condition of the material.

VIII. OUTSTANDING POLICY ISSUES

No known outstanding policy issues are associated with the Site.

IX. ENFORCEMENT

Pursuant to a Remedial Design/Remedial Action Consent Decree entered by the Court in May 2004, ATK, the successor to Thiokol, is performing the groundwater remedy as selected in the ROD for the Site. ATK has also agreed, pursuant to an October 2004 AOC, to perform the RI/FS for OU-2 at the Site. ATK is liable as the former owner and operator of the Site at the time that hazardous substances were released into the environment. ATK, however, is not the current owner of the Site. Rather, ATK sold a portion of the Site to RTI in 1972 and the remainder in 1978. Consequently, ATK has not owned the Site for approximately 28 years.

During negotiations for the RI/FS AOC, ATK submitted documentation to EPA demonstrating that at the time it sold the RTI Site in 1972 and 1978, the buildings located at the Site were in good condition with no asbestos being released into the environment. This documentation consists of a number of documents including a real estate appraisal from September 1969 describing the buildings and related fixtures in good condition, photographs from 1974 depicting the good condition of the buildings and an insurance appraisal. Based on the information submitted by ATK and EPA's independent assessment and review of existing Site documentation, EPA determined that it would not require ATK to perform any remedial activities pertaining solely to asbestos. If however, future soil remediation activities require ATK to disturb areas containing asbestos, EPA reserved its right to require ATK to remediate asbestos in those disturbed areas.

The current owner of the Site, RTI, is a dissolved corporation.

The total EPA costs for this removal action based on full-cost accounting that will be eligible for cost recovery are estimated to be \$39,609.00.

Direct Extramural Cost	\$27,400.00
Direct Intramural Cost	\$ 3,000.00
Subtotal Direct Costs	\$30,400.00
Indirect Cost	\$ 9,210.00
(indirect regional cost rate 30.30%)	
Estimated USEPA Costs Eligible for Cost Recovery	\$39,610.00

X. RECOMMENDATION

This decision document represents the selected removal action for the Radiation Technology Incorporated Site, located in Rockaway Township, Morris County, New Jersey, developed in accordance with CERCLA as amended, and not inconsistent with the National Contingency Plan (NCP). This decision is based on the Administrative Record for the Site.

Conditions at the Site meet the NCP section 300.415(b) (2) criteria for a removal action and I recommend your approval of the proposed removal action. The total project ceiling if approved will be \$27,400.00. Of this \$22,227.00 comes from the Regional removal allowance.

Please indicate your authorization for the planned removal action at the Radiation Technology Incorporated Site, as per current delegation of Authority, by signing below.

APPROVAL: _____ DATE: _____
George Pavlou, Director
Emergency and Remedial Response Division

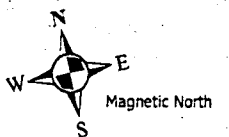
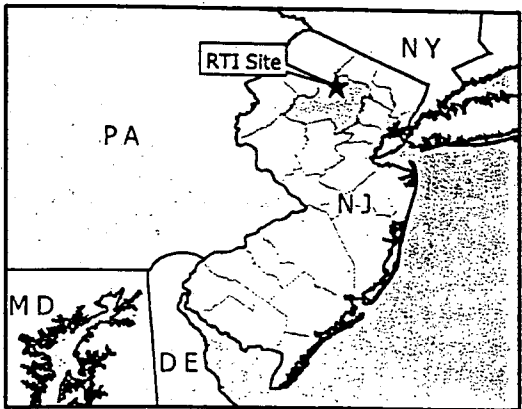
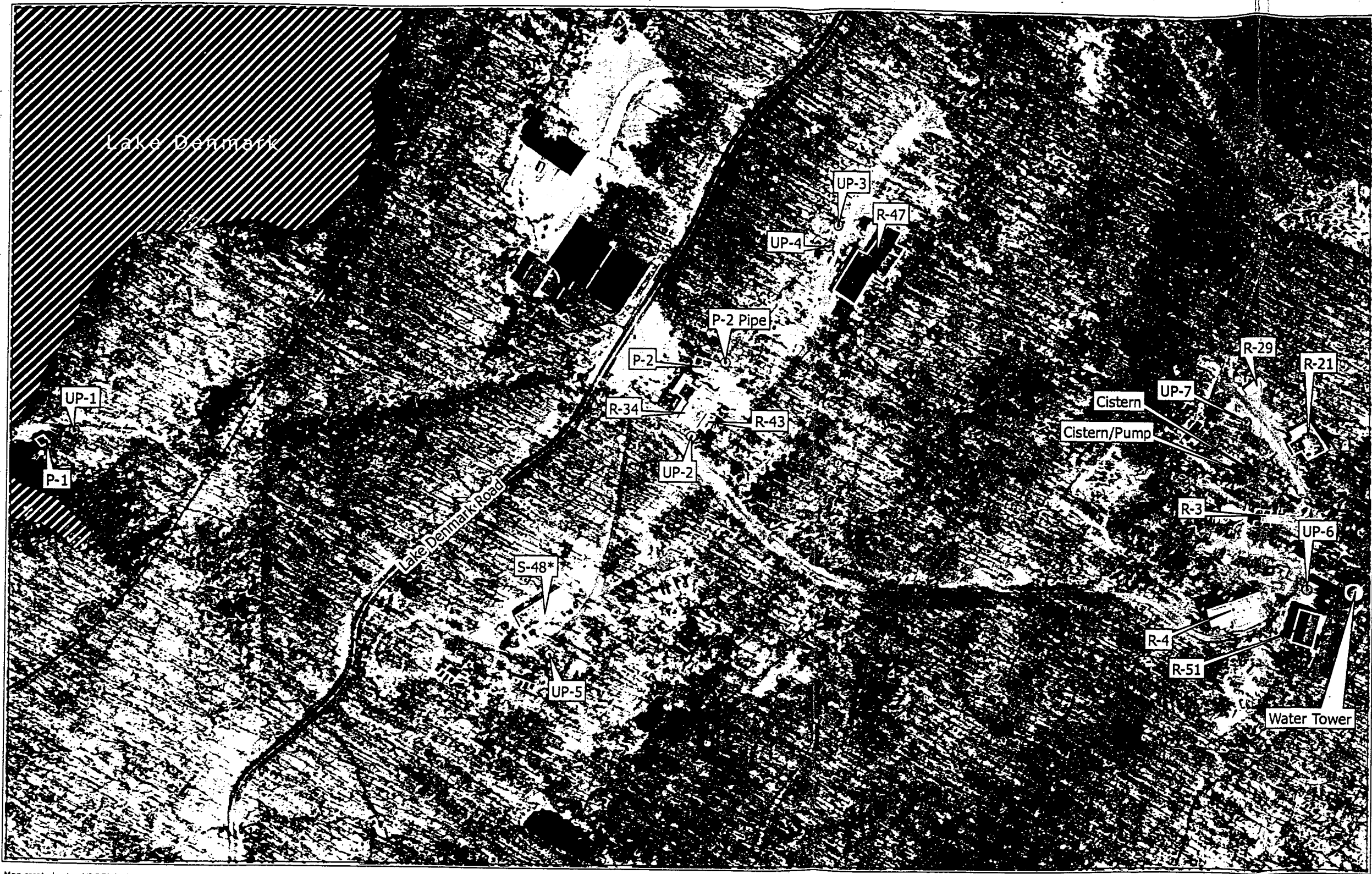
DISAPPROVAL: _____ DATE: _____
George Pavlou, Director
Emergency and Remedial Response Division

cc: (after approval is obtained)

G. Pavlou, ERRD-D
W. McCabe, ERRD-DD
J. Rotola, ERRD-RAB
M. Pane, ERRD-RAB-B
D. Garcia, ERRD/NJRB
G. Zachos, ACSM/O
C. Petersen, ERRD-NJSFB
F. Zizila, ORC
P.Brandt, PAD
R.Manna,OPM-FAM
T. Riverso, OPM-GCMG
T.Grier, 5202G
P. Mckechnie, OIG
C. Kelly, RST

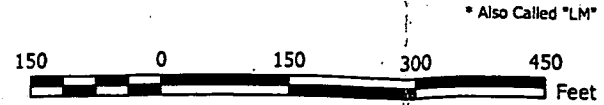
APPENDIX A

1. Site Diagram
2. Asbestos Laboratory Results
3. Site Photographs



Legend

- ⊙ Sample Locations
- Building Footprint



Map created using NJ DEP high resolution DOQQs c. 2002
 Map Creation Date: 16May2005
 Coordinate system: New Jersey State Plane
 Datum: NAD83
 FIPS: 2900
 Units: Feet

Data: g:\arcviewprojects\reac4\00-123
 MXD file: g:\arcviewprojects\reac4\00-123_RTI\123_samplelocationmap_f1
 Revision: 003

U.S. EPA Environmental Response Team Center
 Response Engineering and Analytical Contract
 EP-C-04-032
 W.A.# 0-123

Figure 1
 Sample Location Map
 RTI Site
 Rockaway Township, NJ

POLARIZED LIGHT MICROSCOPY ANALYTICAL REPORT

ELAP ID# 11832

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Client: Lockheed Martin Technology Contact: George Molnar Address: 2890 Woodbridge Ave. Bldg. 209 Edison, NJ 08837		Samples Received: 53 Samples Analyzed: 53 Job Site: Rocket Test Facility Several Buildings Rockaway Township, NJ		Report No.: 2005-217-074 Sampled: 03/15/2005 Received: 03/16/2005 Analyzed: 03/17-03/18/2005 Reported: 03/21/2005	
SAMPLE ID	LAB ID	ASBESTOS %	TYPE (s)	OTHER DATA	DESCRIPTION
				Non-Asbestos Fibers Other	SAMPLE LOCATION
315 - 43	05076-51	15 %	Chrysotile.	1) 85 % Non-Fibrous Material	Black pipe. Building 21 - Outside West on ground.
315 - 44	05076-52	15 %	Chrysotile.	1) 85 % Non-Fibrous Material	TSI pipe insulation. ← Building 21 - Outside above ground South / East.
315 - 45	05076-53	8 %	Chrysotile.	1) 92 % Non-Fibrous Material	Tar paper around pipe. ← Building 21 - Outside above ground South / East.
315 - 46	05076-54	No Asbestos Detected.		1) 100 % Non-Fibrous Material	VAT 12" X 12" white floor tile. Building 21 North entrance.
315 - 47	05076-55	No Asbestos Detected.		1) 100 % Non-Fibrous Material	Mastic under VAT 12" X 12" white floor tile. Building 21 North entrance.
315 - 48	05076-56	40 %	Chrysotile.	1) 40 % Cellulose, 2) 20 % Non-Fibrous Material	TSI pipe insulation. Building R3 East outside.

J&S Environmental Laboratories, LLC 1119 Springfield Road, Union, NJ 07083
 Phone: (908) 206-0073 Fax: (908) 206-0093

Lab Manager: John Gelmini

Analyst: S. Gelmini

The analysis above were performed in accordance with EPA Method 600/R-93/116 or 600/M4-82-020 for the determination of asbestos in bulk building materials by polarized light microscopy (PLM). Please note that while PLM analysis is commonly performed on non-friable and fine grained materials such as floor tiles and dust, the EPA method recognizes that PLM is subject to limitations. In these situations, accurate results may only be obtainable through the use of more sophisticated and accurate techniques such as transmission electron microscopy (TEM) or X-ray diffraction (XRD). The above report may not be reproduced, except in full, without written approval by J&S Environmental Laboratories, LLC. The Analysis performed by J&S Environmental Laboratories, Union, New Jersey.





